

**REMARKS**

Reconsideration and withdrawal of the rejections and objections of record is respectfully requested, in view of the foregoing amendments and following remarks.

Initially, Applicants thank the Examiner for returning duly initialed copies of the Form PTO-1449 with the Office Action, indicating consideration of the documents cited in the Information Disclosure Statements filed April 16, 2001, May 18, 2001 and June 27, 2002.

***Restriction Requirement***

Applicants note that the Examiner has made the Restriction Requirement Final and withdrawn claims 1-4 from consideration. In response, Applicants are canceling claims 1-4 to reduce issues in this case.

***Status of the Claims***

In the present amendment, claims 1-4 are canceled and claims 5-8 are amended. Therefore, claims 5-8 are pending in the application with claim 5 being independent.

In the Office Action, the Restriction Requirement dated November 27, 2002, was deemed proper and made final.

Claims 5-8 are rejected under 35 U.S.C. § 112, ¶ 2, as being indefinite.

Claims 1-8 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Chen et al. (Genome Informatics Series, 1998, vol. 9, p. 102-111).

***Explanation and Support for Amendments***

Applicant submits that each of the foregoing amendments is fully supported by the specification and/or was suggested by the Examiner in the Office Action. Attention is also directed to pages 7 and 10-12, discussing the calculation of the importance score and the final homology score.

***Response to § 112, second paragraph Rejections***

Claims 5-8 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Office Action asserts that claim 5 is indefinite because (1) it depends from non-elected claim 1; (2) it is unclear whether the term "each constituent amino acid" relates to known or unknown proteins; (3) it is not clear how the term "under consideration" relates to "each amino acid" or "importance score"; (4) the term "importance score" is not defined by the claim, nor is it sufficiently explained in the specification; and (5) it is unclear if the term "importance is high" refers to the "importance score."

The Office Action also asserts that claim 6 is indefinite because it is unclear what is meant by the term "searching correspondences," that claims 6-8 lack antecedent basis for the term "target protein," that the term "final homology score" in claim 7 is not clear because it is not known how this score is different from the homology score calculated according to claim 5, and

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that claim 8 is indefinite because homology is based on structure rather than on function, and a method for predicting function based on homology is indefinite.

In response, Applicants note that claims 5-8 have been amended to even more clearly set forth the subject matter of the invention.

With respect to the rejection of claim 5, Applicants note that the current amendment addresses the Office Action's bases for rejection that claim 5 depends from non-elected claim 1; is unclear whether the term "each constituent amino acid" relates to known or unknown proteins; is not clear how the term "under consideration" relates to "each amino acid" or "importance score"; and is unclear if the term "importance is high" refers to the "importance score." With respect to the Office Actions' assertion that the specification does not provide a standard to determine the "importance score," Applicants respectfully submit that the specification at page 7, second paragraph, through page 10 discusses the term "importance score" and make clear that the term is relative to each case. The importance score is merely a scale defined by the practitioner to determine which scores are high. The importance score may be numbers or symbols. Therefore, contrary to the assertions of the Office Action, Applicants respectfully submit that the term "importance score" is defined sufficiently in the specification to allow one of ordinary skill in the art to determine the scope of the invention.

With respect to the rejection of claim 6, Applicants note that the amended language follows the Office Action's suggestion, and has changed target protein to "polypeptide with unknown biological function." In response to the Office Action's questions as to the term "searching correspondences", Applicants respectfully direct attention to page 11, third paragraph

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of the specification which discusses this process. Further, without limitation, Applicants note that "searching correspondence" includes searching for a correspondence between (a) a "group sequence" which is selected from a protein in a database and contains two or more continuous amino acid residues that are highly important for the appearance of biological functions, and (b) a sequence of a polypeptide with unknown biological function.

With respect to the rejection of claim 7 for use of the term "final score of homology", Applicants have amended the claim to include the language "by multiplying the homology score of each template protein by a scale factor for normalization" to differentiate the allegedly confusing terms. Support for this amendment is found at pages 11-12 of the specification.

With respect to the rejection of claim 8, Applicants note that the claim has been amended to overcome the Office Action's objections.

Applicants respectfully submit that the amendments to claims 5-8 merely correct errors in the translation, are clarifying and cosmetic in nature, are not intended to narrow the scope of the claims, and no estoppel should be attached thereto. Accordingly, the Amendments should not be considered a decision to narrow the claims nor as surrendering equivalents of the territory between the claims prior to the present Amendment and the amended claims.

For the foregoing reasons, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 5-8 under 35 U.S.C. § 112, second paragraph.

***Response to 35 U.S.C. §102(b) Rejection***

Claims 1-8 are rejected under 35 U.S.C. § 102(b) as being anticipated by Chen et al. (Genome Informatics Series, 1998, vol. 9, p. 102-111). The rejection states that Chen et al. describes a database integration software "Kleisly" which allows one to combine structural alignment with functional characteristics of known proteins. The Office Action asserts that for each region of importance, Kleisly integrates alignment with features of the known protein that align well with the query protein, and each group is sorted by percentage sequence identity. The Office Action concludes by alleging that the method of Chen et al. allows one to obtain protein alignment which represents homology of sites where importance is high, and function can be deduced.

In response, without conceding that the rejections based on Chen et al. would have any substantive merit, the effective date of Chen et al. is after the May 26, 1998 filing date of the international application PCT/JP98/02302 of which the present application is a National Stage Application. As the attached sheets (<http://giw.ims.u-tokyo.ac.jp/giw98/index.html>)<sup>1</sup> make clear, Chen et al. presented their work at the Ninth Workshop on Genomic Informatics, held December 10-11, 1998 in Tokyo, Japan. Thus, Chen et al. does not qualify as prior art, and the rejection is moot.

For these reasons, Applicants respectfully request that the Examiner withdraw the rejection under 35 U.S.C. § 102(b).

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<sup>1</sup> In accordance with M.P.E.P. § 609C(3), these documents, are being submitted as evidence directed to an issue raised in the mentioned Official Action, and no additional fee or Certification pursuant to 37 C.F.R. §§ 1.97 and 1.98, or citation on a FORM PTO-1449 is believed to be necessary.

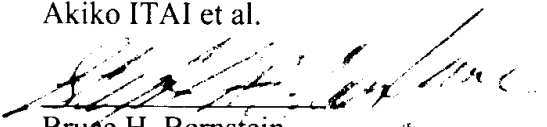
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***Conclusion***

Applicants submit that the foregoing arguments traverse the objections and rejections. Allowance of the application with an early mailing date of the Notices of Allowance and Allowability is therefore respectfully requested.

If the Examiner has any questions, the Examiner is respectfully invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,  
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